ASSIGNMENT 5

Textbook Assignment: "Perspective Projections," pages 5-1 through 5-37.

5-1. Which of the following projections depicts objects as they would actually look to the eye?

1. Central projection
2. Parallel projection
3. Barrel projection
4. Axonometric projection

5-2. The projectors in perspective projections have which of the following characteristics?

1. They are perpendicular to the picture plane
2. They seem to converge at a central point
3. They are parallel to the picture plane
4. They are perpendicular to each other

A. Vanishing point
B. Horizon line
C. Station point
D. Picture plane

Figure 5-A.—Terms of perspectives.

IN ANSWERING QUESTIONS 5-3 THROUGH 5-7, SELECT FROM FIGURE 5-A THE TERM THAT IS DEFINED IN THE QUESTION. TERMS MAY BE USED MORE THAN ONCE.

5-3. Known as the eye level.

1. A
2. B
3. C
4. D

5-4. Represents the position of the observer's eyes.

1. A
2. B
3. C
4. D

5-5. The imaginary vertical plane between the object and the observer.

1. A
2. B
3. C
4. D

5-6. The point at which parallel horizontal lines seem to converge.

1. A
2. B
3. C
4. D

5-7. Known as the center of vision.

1. A
2. B
3. C
4. D

5-8. How high up from the horizon line should you place eye level?

1. 6 feet 6 inches
2. 6 feet 5 inches
3. 5 feet 6 inches
4. 5 feet 4 inches

5-9. Which of the following elements of perspective drawing most influences the finished image?

1. The horizon line
2. The vanishing points
3. The cone of visual rays
4. The station point

5-10. An object placed above the horizon line appears in what form?

1. As seen from below
2. As seen from above
3. Distorted
4. In two dimensions

5-11. Moving the picture plane alters what dimension(s)?

1. Scale only
2. Perspective only
3. Perspective and scale
4. Proportion and perspective

5-12. What type of perspective do DMs use most often?

1. Aerial
2. Linear
3. One-point
4. Three-point

5-13. In reverse perspective, where is the location of the station point?

1. Behind the object
2. Behind the picture plane
3. At the picture plane
4. In front of the picture plane

5-14. Which of the following characteristics implies distance in aerial perspective?

1. Increased contrast
2. Intense color
3. Soft contours
4. Sharp line definition

5-15. What type of perspective drawing is known as parallel perspective?

1. One-point
2. Two-point
3. Three-point
4. Oblique

5-16. What dimension(s) are represented in true length on a one-point perspective drawing?

1. Height and depth
2. Height and width
3. Depth and width
4. Width and length

5-17. Why should you draw only the depth dimension in perspective when making a one-point perspective drawing?

1. The other two dimensions are not parallel to the picture plane
2. The other two dimensions have vanishing points
3. Height and width dimensions are parallel to the picture plane
4. The width dimension is oblique to the picture plane

5-18. Two-point perspective drawings are also referred to as what type of projection?

1. Bilateral
2. Linear
3. Aerial
4. Angular

5-19. What type of projection places the object at an angle to the picture plane while maintaining one set of vertical edges parallel to the picture plane?

1. One-point
2. Two-point
3. Three-point
4. Linear

5-20. Under which of the following circumstances is it possible to take some dimensions directly from a two-point perspective drawing?

1. When the station point is below the object
2. When the station point is on the ground line
3. When one edge of the projection touches the picture plane
4. When the vertical parallel edge is unaffected by station points

5-21. Which of the following attributes is characteristic to oblique perspective?

1. No object surfaces are parallel to the picture plane
2. Height is the only dimension having a vanishing point
3. Width and depth dimensions have a vanishing point
4. Height and width have no vanishing points

5-22. What should you do to make small objects appear better in three-point perspective drawings?

1. Place the vanishing points far apart
2. Place the vanishing points close together
3. Place one vanishing point above and two below
4. Place all three vanishing points above the horizon line

5-23. In a one-point perspective drawing using the plan-view method of construction, after drawing the plan view, picture plane, and station point, you should take what step next?

1. Locate the vanishing point
2. Project a vertical line from the station point to the horizon line
3. Project the width of the plan view to the ground line
4. Draw visual rays to the vanishing point

5-24. Where should you find the required information for using the plan-view method of mechanical construction of a perspective drawing?

1. An isometric drawing
2. An orthographic drawing
3. NAVSO P-35
4. MIL-STD 110A

5-25. What is the first step in constructing a one-point perspective drawing using the plan-view method?

1. Locate the station point
2. Obtain a depth dimension
3. Draw the plan view
4. Establish a horizon line

5-26. How are the vanishing points located?

1. Extend the vertical lines of the plan view to the ground line
2. Project a ground line parallel to the horizon line
3. Draw the horizon line and drop perpendiculars to the station points
4. Project a vertical line from the station point to the horizon line

5-27. How should you correct distortion in perspective drawings?

1. Move the ground line
2. Move the horizon line
3. Move the station points
4. Move the cone of visual rays

5-28. What is the best location to draw a plan view for use in constructing a one-point perspective drawing?

1. Draw it true size
2. Draw it in an arbitrary location
3. Draw it resting on top of the horizon line
4. Draw it parallel to the station point

5-29. When you place the station point closer than twice the width of the plan view, what happens to the appearance of the drawing?

1. It is in true size and shape
2. It distorts
3. It reduces
4. It enlarges

5-30. When you draw a plan view in front of the picture plane, what is the result?

1. The front view is distorted
2. The front view of the object is smaller
3. The front view of the object is the same size as the plan view
4. The front view of the object is larger

5-31. **REFER TO FIGURE 5-15 IN THE TEXT.** When drawing a one-point perspective drawing using a plan view, constructing a perpendicular line from the station point to the horizon line establishes what point?

1. VP
2. A
3. H
4. B

5-32. In a two-point perspective drawing constructed using the plan-view method, you should locate the station point by dropping a perpendicular line from what corner of the object?

1. The one that is already in perspective
2. The one that is parallel to the picture plan
3. The one that is perpendicular to the picture plan
4. The one that touches the picture plane

5-33. **REFER TO FIGURE 5-16 IN THE TEXT.** To draw the plan view in the desired angle to the picture plane, you should use angles in what degree increments?

1. 15, 45, 30, 90
2. 45, 30, 15, 25
3. 30, 15, 45, 60
4. 45, 75, 15, 30

5-34. **REFER TO FIGURE 5-16 IN THE TEXT.** How should you locate the station point?

1. Drop a perpendicular line of arbitrary length from the corner of the object (0)
2. Measure twice the width of the object and draw a vertical line from the ground line to the object
3. Intersect the picture plane and the horizon line taking half of that measure to locate the ground line and station point
4. Place an arbitrary point anywhere on the drawing

5-35. What is the angle created by projecting lines from the station point to the vanishing points?

1. 30°
2. 45°
3. 60°
4. 90°

5-36. Where are the vanishing points located?

1. On the ground line
2. On the horizon line
3. On the picture plane
4. On the front view

5-37. A 3-foot edge of an object represented on a drawing to a scale of 1"=2"-0" is parallel to the plane of projection. You should draw this edge to what size on you drawing?

1. 3/4 inches
2. 1.5 inches
3. 6 inches
4. 2 inches

5-38. A 3-foot edge of an object represented on a drawing to a scale of 1"=2"-0" is behind the plane of projection. How should you draw this edge?

1. Foreshortened
2. In true length
3. At a 2:1 scale
4. At 2/3rds full scale

5-39. A circle shown parallel to the plane of projection on a drawing in two-point perspective appears as what shape?

1. An ellipse
2. A circle
3. A parabola
4. A hyperbola

5-40. What should you do to determine the perspective of lines and planes inclined away from the picture plane?

1. Project an auxiliary view
2. Locate their station points
3. Locate their vanishing points
4. Revolve the view toward the plane of projection

5-41. How should you transfer the measurements of a circle that is shown oblique to the plane of projection?

1. Use a set of dividers
2. Inscribe a square within the circle
3. Use a trammel
4. Circumscribe the circle with a square

5-42. How many check points should you use when transferring measurements from a circle to a surface oblique to the plane of projection?

1. Six
2. Seven
3. Eight
4. Five

5-43. You should use a square to help you in drawing circles in perspective for what reason?

1. Squares have transferable measurements
2. Squares eliminate the need for vanishing points, plan views, and elevation views
3. Squares are equally proportional
4. Squares project as accurate picture planes

5-44. In one-point perspective, what is the easiest way to draw circular shapes?

1. Perpendicular to the picture plan
2. Parallel to the picture plane
3. Drawing them true size
4. Drawing them in true perspective

5-45. When you construct a perspective drawing of an object that contains inclined lines and planes, the plan and elevation serve what purpose?

1. Measuring
2. Projecting the vanishing points
3. Locating the picture plane
4. Projecting horizon line

5-46. What additional element influences drawing circles and arcs in two-point perspective?

1. Station points
2. Vanishing points
3. Horizon line
4. Ground line

5-47. What is the key to dividing a line or area into equal parts?

1. A vertical or horizontal line that is parallel to the picture plane
2. A fully-divided architect's scale
3. An inclined plane with the vanishing point resting on the horizon line
4. A line that can be equally divided

5-48. What is the final step in dividing a receding plane into equal parts?

1. Divide the verticals into equal parts
2. Draw the diagonals
3. Draw receding horizontal lines
4. Draw the vertical lines through the intersections

5-49. When finding equal points on a plane in perspective, what feature do all points share?

1. A common vanishing point
2. A height dimension
3. A similar degree of angularity
4. A length dimension

5-50. Equally divided points on a plane in perspective will appear to have what type of relationship?

1. Parallelism
2. Coordination
3. Angularity
4. Perpendicularity

5-51. To draw vertical divisions in perspective, you should first locate what dimension?

1. The length of the horizontal lines
2. The height of the vertical elements
3. The distance between vertical elements
4. The distance between the first vertical element and the vanishing point

5-52. When drawing a reflection, where should you locate the station points?

1. At the same location as the object station points
2. Opposite and above the object drawn
3. Opposite and below the object drawn
4. Directly above or below the station points of the object

5-53. When drawing reflections, what is the only dimension left for you to figure?

1. The horizontal width
2. The vertical height
3. The distance from the station point to the horizon line
4. The distance from station point to the picture plane

5-54. How do reflections appear to the eye?

1. As though YOU were above the scene looking down
2. In reverse
3. As though you were below the scene looking up
4. In exact duplic ate

5-55. How do reflections from object placed back off the horizon line appear?

1. Shorter than the real object
2. As tall as the real object
3. Taller than real object
4. As half of the real object

5-56. In a perspective drawing, where should you draw the vanishing points for a shadow?

1. To the right of the object
2. Either on or off your paper
3. Vertically below the light source
4. To the left of the object

5-57. To draw realistic shadow areas in perspective, what must you establish first?

1. A revolution about a reflecting surface
2. A light source and a vanishing point
3. The appropriate depth of the object only
4. The light source on the drawing and the depth of the object

5-58. How should you add realism to perspective drawings?

1. With depth
2. With color
3. With shading
4. With detail

5-59. What type drawings are ordinarily NOT shaded?

1. Isometric
2. One-point perspective
3. Technical
4. Working